

REMARKS

The Official Action dated March 3, 2009 has been received and its contents carefully noted. In view thereof, claim 1 has been amended in order to better define that which Applicants regard as the invention. As previously, claims 1-3 are presently pending in the instant application.

Turning now to the Official Action, and particularly page, 2 thereof, claims 1-3 have been rejected under 35 U.S.C. §102(b) as being anticipated by Minami et al., and alternatively rejected under 35 U.S.C. §103(a) as being unpatentable over Minami et al. in view of Yamaji et al. These rejections are respectfully traversed for at least for the reason discussed hereinbelow in that Minami et al., when taken alone or in view of the teachings of Yamaji, fails disclose or suggest that which is presently set forth by Applicant's invention.

As can be seen from the foregoing amendments, claim 1 has been amended to recite a heater unit to be mounted on a valve having flow path forming sections including a valve body connected to a fluid piping system through joints, and having an actuator connected to the valve body. The unit comprises a main body constructed in the form of a housing having pipe through-holes and an actuator exposing opening and a heater unit in the main body, wherein the heater unit comprises a direct heating section configured to heat the body of the valve through direct contact heating and a radiant heating section, surrounding the direct heating section, and extending to an area of the flow path forming sections excluding an area which is brought into direct contact with the direct heating sections and joints, enclosed by the main body, configured to heat the inside of the main body by radiant heat such that the flow path forming sections including the body and the joints are entirely and closely covered by the main body so that only the fluid piping system is exposed from the pipe through-holes, and the flow path forming sections excluding the area which is brought into direct contact with the direct heating sections and the joints, enclosed by the main body, are constructed so as to be heated by the radiant heat from the radiant heating section. It is again respectfully submitted that Minami et al., when taken alone or in view of the teachings of Yamaji, fails disclose or suggest that which is specifically recited by Applicant's claimed invention.

In reviewing the Official Action, it is noted that the Examiner is of the position that the portion of the piping at the intersection of the piping and the body 2 disclosed in Minami et al. can be interpreted as a joint and the couplings 6 can be interpreted as pipes. The Examiner also states that the sheet 13 of Minami et al. would be a direct heating element, and heaters 12 would inherently provide radiant heating to the interior of the main body. Applicants, however, respectfully disagree with the assertions made by the Examiner.

Initially, the particular identification of the joints is important with respect to the present invention. Since the joints are members for installing or replacing a valve by connection to pipes, the couplings 6 in Minami et al. cannot be interpreted as mere pipes, as asserted by the Examiner. Further, although the Examiner states that the heater 12 would inherently provide radiant heating to the interior of the main body, the size of heater 12 is as small as the sheet 13 and does not function as a radiant heating means to heat the area of the couplings 6.

In Minami, the couplings 6 are not totally enclosed in the housing of the heater. Thus, the couplings 6 are not and cannot be sufficiently heated. As a result, the temperature of the body 2 of the fluid controller 1 would be high and that of the couplings 6 would necessarily be lower than that of the fluid controller 1.

In accordance with the present invention, the flow path forming section including the joints is integrally and uniformly heated as a whole and the temperature of the flow path forming section is entirely maintained within a certain temperature range. In order to accomplish this, as recited by Applicant's claimed invention, the main body or the heater housing encloses the flow path forming section including joints as well as the valve body to heat them as a whole at a controlled temperature range.

In contrast, in the structure disclosed in Minami et al., the heater 12 cannot uniformly heat the fluid path forming section. Given the structure of the device of Minami et al., the temperature of the couplings 6 will necessarily be low compared to the body 2. If the temperature of the couplings 6 is increased, the temperature of the body 2 would become too high, and the fluid such as gas flowing therethrough may be decomposed due to the high temperature at the body 2. In particular, the gas passing through this kind of piping in a plant for manufacturing organic EL (electro luminescent) devices, the gas is liable to be

decomposed at a high temperature and requires careful temperature control. Accordingly, it is respectfully submitted that Minami et al. fails to disclose or suggest a heater unit wherein a radiant heating section which surrounds the direct heating section, and extends to an area of the flow path forming sections excluding an area which is brought into direct contact with the direct heating sections and joints enclosed by the main body with the radiant heater section being configured to heat the inside of the main body by radiant heat such that the flow path forming sections including the body and the joints are entirely and closely covered by the main body so that only the fluid piping system is exposed from the pipe through-holes as is specifically set forth by Applicant's claimed invention. Further, Minami et al fails to disclose or suggest that the flow path forming sections, excluding the area which is brought into direct contact with the direct heating sections and the joints, enclosed by the main body, are constructed so as to be heated by the radiant heat from the radiant heating section as is specifically set forth by Applicant's claimed invention.

As to the teachings of Yamaji et al., while this reference may disclose a fluid control apparatus, in which heat tapes 11 extend to block coupling members 24, the block coupling members 24 are not encapsulated by the heat tapes 11, which would not result in the block coupling members being efficiently heated by the heat tapes 11. Accordingly, it is respectfully submitted that the teachings of Yamaji et al. do nothing to overcome the shortcomings associated with Minami et al. as outlined in detail hereinabove and thus fails to render obvious Applicants claimed invention.

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the present application is now in proper condition for allowance. Accordingly, it is requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 1-3 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's representative, the Examiner is hereby invited to contact the undersigned at the numbers shown.

Further, while no fees are believed to be due, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-4525.

Respectfully submitted,

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